

## YELLOW FEVER EPIDEMIC OF 1873.

LETTER  
FROM  
THE SECRETARY OF WAR,

IN ANSWER TO

*A resolution of the House of January 13, 1874, transmitting a report of the Surgeon-General concerning the epidemic of yellow fever in the United States in 1873.*

JANUARY 27, 1874.—Referred to the Committee on Commerce and ordered to be printed.

## WAR DEPARTMENT, January 23, 1874.

The Secretary of War has the honor to transmit to the House of Representatives, in compliance with resolution of the 13th instant, copies of such papers on file in the Surgeon-General's Office concerning the epidemic of yellow fever in the United States in 1873, as illustrates the subject of national quarantine.

WM. W. BELKNAP,  
*Secretary of War.*

SURGEON GENERAL'S OFFICE,  
*Washington City, January 21, 1874.*

GENERAL: I have the honor to forward herewith copies of such reports, or parts of reports, received at this office during 1873, as bear upon the question of the importation of yellow fever, and its relation to the subject of quarantine.

Cases of yellow fever were reported during the year at but two military posts, viz, Fort Jefferson, Tortugas, Florida, and Fort Barrancas, Pensacola Harbor, Florida.

At Fort Jefferson, the first cases occurred during the month of August, the last during September; the last death during October. Altogether there were twenty-five cases and thirteen deaths out of a command which numbered, at the time the fever appeared, but fifty-nine men, and which remained at the post during the epidemic.

At Fort Barrancas the recognition of the first cases, September 26, was promptly followed by the removal of the majority of the command

to a camp on Santa Rosa Island, near Fort Pickens, three officers and twenty-six enlisted men being left behind. No new cases occurred in the portion of the command moved, but several of those left behind had the fever, making in all twelve cases and three deaths during September, October, and November, out of a mean strength of 119 men.

After the appearance of yellow fever at Fort Jefferson, and the death of the commanding officer of the Pawnee in Key West Harbor, the garrison at Key West was removed, September 16, and encamped near old Fort Dallas, at the mouth of the Miami River, Florida. No cases occurred in this command.

In like manner, after the occurrence of several cases among the citizens of Mobile, the garrison at that place was withdrawn, September 20, transferred to Mount Vernon Arsenal, and entirely escaped the disease.

These results confirm the experience of former years in favor of the prompt removal of garrisons to healthy rural camp-sites on the appearance of yellow fever, either among the troops themselves or among the citizens in their immediate vicinity.

I append herewith condensed abstracts of the monthly sick-reports of Forts Barrancas and Jefferson, from July to November, inclusive, in addition to the reports called for, which are given in full, with the exception only of those parts which refer to the treatment of the disease.

I have the honor to be, very respectfully,

J. J. WOODWARD,

*Assistant Surgeon United States Army.*

Surgeon-General J. K. BARNES.

*Fort Barrancas, Florida.*

Month .....	July.		August.		September.		October.		November.	
Mean strength.....	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Yellow fever.....										
Typhoid fever.....	2		1	1	4		7	2	1	1
Remittent fever.....					2		1		1	
Intermittent fever.....	2				1					
Diarrhea and dysentery.....	9		14	1	10		3		5	
All other diseases.....	35		20	1	22		12		7	
Total .....	48		35	1	40		23	2	14	1

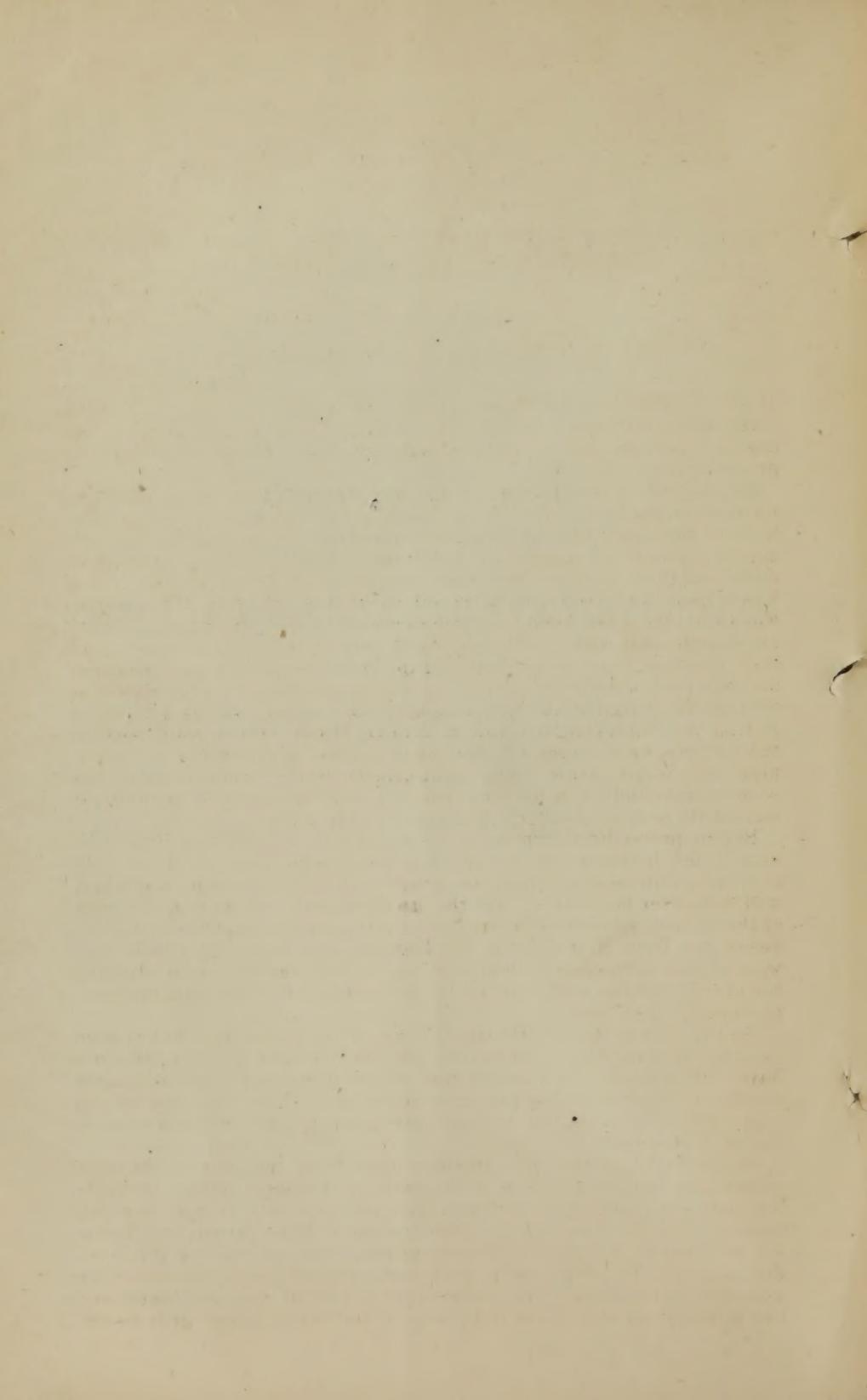
*Fort Jefferson, Florida.*

Month .....	July.		August.		September.		October.		November.	
Mean strength.....	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Yellow fever.....										
Intermittent fever.....	2		1	1	5		7		1	
Diarrhea .....	1		2		2					
All other diseases.....	27		13		7		2		4	
Total .....	30		28	5	22	7	2	1	4	

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SPECIAL REPORTS  
OF  
ACTING ASSISTANT SURGEON JOSEPH Y. PORTER  
AND  
ASSISTANT SURGEON HARVEY E. BROWN, U. S. A.,  
ON THE  
OCCURRENCE OF YELLOW FEVER AT FORT JEFFERSON, FLORIDA.

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SPECIAL REPORTS OF ACTING ASSISTANT SURGEON JOSEPH Y. PORTER AND  
ASSISTANT SURGEON HARVEY E. BROWN, U S. A.

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POST HOSPITAL, FORT JEFFERSON, FLORIDA,

*October 25, 1873.*

To the Surgeon-General of the Army:

GENERAL: I have the honor to submit for your information the following report on the epidemic of yellow fever at this post during the present year:

On the 28th of August, 1873, I officially informed the post-commander, Lieutenant James E. Bell, First Artillery, of the existence of yellow fever at this post, and advised the immediate removal of all unacclimated persons to Loggerhead Key, distant from this post about two miles and three quarters westward, that being the only available key where fresh water could be procured or shelter afforded. The advice was promptly acted upon, and orders issued to that effect; and as soon as possible, and with the least practicable delay, the laundresses and their children, together with such of the enlisted men as could be spared and were not absolutely required as nurses and burial party, were sent over under charge of the first sergeant; and as soon as the services of Acting Assistant-Surgeon Gould, United States Army, could well be spared here, he was ordered there also, to treat any minor cases of sickness that might arise. The light-keeper kindly accommodated the women and children in his own dwelling and as many of the enlisted men as there was room for. The rest lived in tents.

Before proceeding further, it is necessary that I retrace a little, and note a few instances of the previous two weeks, particularly as they have a certain bearing upon the progress of this epidemic, and which will hereafter be noticed. On the 6th of August the captain and crew of the British schooner Mai arrived at this post, and reported that their vessel was from New Orleans for Havana, and, springing a leak, they were unable to keep her afloat, and she sunk under them that morning thirty miles to the westward of Loggerhead light. They reached here by noon in open boats.

On the 11th of August Dr. Gould's son, who had the week before been visiting at Key West, was taken sick and remained quite ill for a few days. His father, who attended him, reported the case to me as bilious-remittent fever, following exposure to the sun. The child was up and about within a week, but looked quite pale and languid for a week or ten days afterward.

On the night of the 24th, thirteen days from the date of the boy's seizure, his sister was taken with precisely the same symptoms (only the more exaggerated) as characterized her brother's attack, and was, indeed, very ill. I saw her, in consultation with her father, and thinking the case to be one of a bilious-remittent type, we directed the remedies accordingly. The case proved successful, although convalescence was slow and tedious. The same night my child was also taken, and had a fever, but, after three days, was up and about again. It is as well

here to mention that these children are all acclimated, having been born and raised in the southern climate.

On the morning of the 24th, Joseph Baumstark, a private of Company M, First Artillery, presented himself at sick call, complaining of headache and general feeling of malaise, and stating that the night before he had vomited, and slept very little. He was admitted to the hospital and ordered to bed. At the time of admission his pulse and temperature were very slightly above normal, his bowels very freely open, and his kidneys were acting naturally. He was further directed to have a febrifuge every two hours and a low diet. That night, a mustard foot-bath, carried well up to the knees, together with ten grains of Dover's powder, were administered, and the other treatment continued. The next morning, at my visit, he expressed himself as feeling much better, and said that he had passed a tolerably good night. The headache had left him, and he was then in a gentle perspiration. He was directed to have, in addition to the febrifuge, a tonic of compound tincture of cinchona and quinine, with a few drops of aromatic sulphuric acid, every three hours. During the day he was suddenly seized with singultus, and despite all exertions and application of remedies, it proved to be an uncontrollable and unrelenting complication, and continued, with but very slight remissions, to the time of his death, a day and a half afterward. From the commencement of the hiccough his stomach rejected everything, and although he appeared in good spirits and hopeful, he was evidently failing. Nourishment was then ordered to be administered by enema. In the latter part of the second day, he experienced some difficulty in passing water, but that was afterward partly relieved. At 9 p. m., on the 27th, his condition was not materially changed; his pulse was 90, full and compressible, but he was still hiccuping. At 2 a. m. of the same night I was sent for, and found him *in articulo mortis*. Stimulation was speedily resorted to, and finding that he was unable to swallow, it was given by enema. That, however, he failed to retain, and seeing any further attempt at medication useless and ineffective, all treatment was ordered to be stopped; and he died in three-quarters of an hour afterward. On examining the bedding in which he died, the next day, and noticing dark-colored spots over both mattress and linen, I questioned the steward, and learned that just before death took place he had vomited and passed some dark-colored liquid, but he (the steward) not thinking the matter of sufficient importance, had failed to report the fact to me until my own discovery led me to question him closely, and thus elicited the information.

I have been thus careful in detailing this case, as it was so obscure and complicated, being marked by other symptoms, and having none of the distinctive features of yellow fever at the time of admission, and only at the time of death and afterward was there anything tangible to be seized upon, or to arouse suspicion as to the true nature of the disease. Indeed, the case presented to me, at the beginning, more of the features of acute indigestion, and particularly so as I understood that the man was well known to be a great glutton, having, during the month, consumed, besides his rations and other eatables purchased from both commissary and sutler, a large amount of pies of various kinds.

The cases that were taken sick and admitted on the 25th were regarded with suspicion, and although not reported, for sufficiently good reasons, the treatment was nevertheless pursued and directed as for yellow fever. One of these cases died at 12 m. on the 28th, vomiting at the time of death unmistakable black vomit. From the 28th to the

31st, there were seven cases and four deaths, and from the 1st of September to the 10th inclusive, fourteen cases and three deaths. These also include civilians who were taken sick. From the 10th to the 20th of September I shall pass over, as a report on the progress of the disease for that interval of time devolves upon Assistant Surgeon Harvey E. Brown, U. S. A., who was in charge of the hospital during that period. I may, however, remark that, from the 11th to the 26th, there were five cases and six deaths. There was no one taken sick after I re-assumed charge of the hospital on the 26th of September. The patient admitted on the 20th was the last case, and he then bid fair to recover, but, being unfortunate enough to take a relapse, and not having sufficient strength to rally, he fell into a typhoid state, in which he gradually sank, and finally died on the 6th of October.

The mode of attack of the fever in this epidemic was not the same in each case, and the type of the disease differed according to the habits and temperament of the individual; and although the invasion of the disease was generally marked by the symptoms usually described, yet in not a few cases was the chill and universal tired, aching feeling, together with torpidity of the bowels, totally absent. Patients have presented themselves who, on admission, complained only of debility and a general feeling of languor, and whose cases pointed to no especial symptom denoting yellow fever, save the wild expression of the eye, and perhaps a little frontal headache, yet within an hour the fever would be raging, the pulse strong and bounding, beating from 110 to 120 in a minute, the skin hot and dry, and the thermometer placed under the tongue denoting a temperature over 103° Fahr. To illustrate: On the 11th of September, a corporal walked into the office of the hospital and, saluting, said very composedly, "Yellow fever, sir; I've got it." That man complained of nothing in particular. "I don't know how I do feel, doctor, except generally good for nothing," was his reply to my question; yet in a few hours he had the well-marked and distinctive features of the disease. A few were suddenly attacked, the poison of the disease appearing to burst forth in them with overwhelming violence, and a very good example of this mode of invasion was the case of Hospital Steward Horner. At 10 o'clock of the morning of the 28th of August to all outward appearances he was perfectly well, and was as usual attending to his duties in the hospital. In half an hour he presented himself, and reported that while walking across the parade he was suddenly overpowered, and not ten minutes afterward he had an intense headache, both frontal and occipital, violent throbbing carotids, great pain in back and limbs, with high fever.

The pulse I found to be, at the commencement of an attack, an uncertain guide in the discrimination of the disease, and often the temperature of the skin was not appreciably increased to the touch, for in certain cases, while the pulse was not above 90 and still soft and compressible, the mercury would show a temperature of over 102° and 103° Fahr., either in the axilla or under the tongue.

The wild and injected appearance of the eye was never absent in any of the cases; neither the anxious expression of the countenance nor the indescribable feeling of uneasiness. In the majority of the fatal cases there was no stage of calm, the patient passing directly from the stage of high febrile excitement to that of collapse; neither was the black vomit a constant symptom, but in those cases in which it did occur, it was ejected with that involuntary ease and readiness so characteristic of yellow fever, and in one instance the patient died immediately afterward.

Suppression of urine occurred in all of the fatal cases during some portion of the disease, commencing often as early as the second day, the patient rarely surviving over twenty-four hours after total suppression had set in. Uraëmia was well marked in a few cases. Vomiting was a constant and uncontrollable symptom in a few cases only, and in others there was no nausea or uneasiness of the stomach prior to the ejection of black vomit. The range of temperature was generally between  $100^{\circ}$  and  $105^{\circ}$  Fahr., the latter being the highest point the mercury reached that was noticed. I regret that the observations in this line could not have been more extensive, but owing to the absence of any clinical thermometers at this post, no observations could be taken until the arrival of a set of my own, and that unfortunately only toward the close of the epidemic. I must not neglect to mention the odor given off from the person of the patient during the epidemic, and more markedly from those whose cases ended fatally. Of course this feature of the disease is not new, and I have noticed it in other epidemics, but I do not remember to have appreciated it as strongly as in this.

Such was the general course pursued by the fever, and which I trust has been mentioned sufficiently in detail.\*

In tracing a history of this epidemic, and in order to arrive at a definite and satisfactory conclusion in regard to the origin or probable cause of the fever, it is necessary that several circumstances be taken into consideration; and first, the arrival of the crew of the schooner Mai, at this port, on the 5th of August; second, the visit of Dr. Gould's son to Key West, and his subsequent illness on his return; third, the atmospheric changes and influences which had prevailed during the previous six weeks or two months; fourth, the unacclimated condition of the command; and, finally, the sanitary condition of the post itself.

Concerning the first of these considerations, and to which I have already alluded in the beginning of this report, I would remark that the Mai was reported to be bound from New Orleans to Havana, and at the time of the disaster occurring to her she had been at sea over a week. Yellow fever was known to have existed at New Orleans at that time, but was not reported epidemic, nor had the port been declared an infected one. An easterly gale was prevailing at that time, and the captain and crew barely saved their lives, reaching this port with only the clothes they had on, and they thoroughly wet through. They were a hardy set of men, and at the time of arrival were in good health and condition, and so continued during their stay here, which was only until the Matchless could arrive and return with them to Key West, about five days. Possibly their clothing having been infected at New Orleans, some germs of the fever might have still remained about them, and in this way have been imported into this port. Although infection of the post from this source is possible, I consider it extremely doubtful.

As to the second point noticed, I would merely state that had yellow fever existed at Key West when Charles Gould visited there in August, or had he in any way been exposed to its morbid influence, I could clearly and very properly trace the importation of the disease through him. But, on the contrary, I am assured by the health-officer at Key West, and other reliable parties there, that there was no fever in that place during the year prior to the month of September, and that the past summer has been an unusually healthy one. I may also add that the boy is well acclimated, having lived all his life in Southern Florida, and for the past two years in Key West.

\* Here follows an account of the treatment pursued.

It is a well-known fact that a long-continued drought, followed by heavy rains, and a hot sun with a continuous heat of over 80° Fahr., and with the decay of both animal and vegetable matter as a natural sequence thereto, is exceedingly fruitful, if not productive, of the disease in question, and this was constantly the case at this post prior to and during the major portion of this epidemic. The previous month had been intensely hot, and a series of calms having prevailed throughout the months of May, June, and July. During the month of July, and up to the commencement of September, there was an unusually large rain-fall, principally by showers, during the day, after which the sun would pour down with greater violence than before, and the atmosphere be close and stifling; the steam arising from the ground after one of these showers was very appreciable, and I noticed that I always received fresh additions to the sick on those days.

Although the men were sheltered from the sun as much as possible, and the police of the post was well kept up, yet there were certain irreparable conditions existing which aided and abetted, at least, in propagating the fever. I allude first to the mass of old decayed buildings, and rubbish, and filth of different kinds, principally outside of the fort. All authorities agree that decaying timber, and the walls of old wooden buildings, are powerfully retentive of *materies morbi*, and as such should be torn down and burnt up; but not being, properly speaking, under the immediate control of the commanding officer of the post, these buildings have been allowed to remain for the use of the engineer employés during the winter season. Each year, of course, has added to their decay, and it is no wonder that germs of a disease locating there should remain dormant for an indefinite period.

Such, I consider, to be the true solution of the question of the origin of the epidemic of this year. Yellow fever raged violently at this post during the months of August, September, and part of October, in 1867, and the fever having been on all sides of the fort, it is not only possible, but extremely probable, that some of the germs of the disease remained even after the epidemic ceased, having only been lying dormant in certain localities until certain atmospheric conditions favorable to its germination should exist, and the proper material be present for its rapid reproduction and propagation. Such conditions certainly existed this year. The command was new to the climate, and composed entirely of unacclimated men, and, as hitherto stated, the weather was extremely favorable to its origination, the thermometer ranging over 90° Fahr. every day, and having previously suffered from long-continued drought, this was followed by frequent and heavy showers of rain, with a fierce tropical sun intervening.

At the commencement of the epidemic the situation was most trying. Besides having the intense heat, the weather very calm, the Matchless away, and not a fragment of ice at the post to relieve the thirst of the sufferers, I had the double misfortune to lose the hospital-steward, who is, as is well known, of great assistance, and particularly in such occasions as these. He was among the earliest to take sick, and lived but three days from the time of his seizure. His widow, the hospital matron, broken down by constant attendance upon him, and mental anguish afterward, was quickly attacked by the disease, and died within five days. The nurses from the enlisted men of the command, although ready, willing, and obedient, still, not being schooled or accustomed to nursing of any description, could not be expected to have the requisite amount of knowledge which long experience only teaches, and which in a disease, too, where careful discrimination and judgment are essen-

tial qualities on the part of a good nurse, they did their best, and it was all I could expect. When the command was moved to Loggerhead Key, and a certain number of men were required here as nurses, I was informed by Lieutenant Bell that he had only to make the request, and the requisite number immediately volunteered, and even more than were required desired to remain to assist as best they could. I take pleasure in mentioning the fact, and also that, with but one or two exceptions, the entire command behaved in a courageous manner. Many deserve and richly merit special mention, and the highest approbation of their commanders for their brave conduct in the discharge of their many arduous duties, which they cheerfully and willingly performed. Not a few of these were victims to the disease before many days, and, I am sorry to say, died. As their names have already been mentioned to the commanding officer, it is not, I deem, necessary to note them here.

On the arrival of the Matchless on the 30th of August, the much-desired ice was obtained, which gave great relief and comfort to the sick. As soon as possible the boat was dispatched with telegrams to the headquarters of the department, and urgently requested to be furnished with civilian nurses from Key West. That this request was immediately complied with on the part of personal friends in Key West, was shown by the fact that the next evening the United States revenue cutter Northerner arrived off the buoy, bringing, besides five civilian nurses and Dr. Otto, a large supply of ice and other articles necessary for the sick. Immediately upon the arrival of these nurses, I asked to have relieved all enlisted men on duty in the hospital as nurses, and advised their speedy removal to Loggerhead Key, there to be placed in quarantine from the rest of the command until such time as the surgeon in charge there should deem it safe to release them. This was done, and I am happy to say that I received from that place only four cases of fever, and they were taken sick within a few hours after their arrival, showing clearly that they had become infected by the poison before leaving the post.

Having made the most intelligent of the civilian nurses acting steward and wardmaster, I placed the rest under his immediate superintendence, and in a few days had the satisfaction and pleasure of seeing the sick not only well cared for and attended, but cheerful and hopeful. I had every reason afterward to be satisfied with the selection made, for James Dunbar, the man to whom I allude, performed excellent service, not only in the capacity of acting steward and wardmaster, but afterward as a nurse, being always, and at all hours of the day and night, both ready and willing to execute all orders and perform any service required of him.

On the 8th of September, Lieutenant James E. Bell, First Artillery, was suddenly stricken down with the fever. The history of his case in detail has, I suppose, been already furnished by Assistant Surgeon Harvey E. Brown, U. S. A., and I merely pause to pay a tribute of respect to the memory of a gallant soldier and officer, who, though faced by death on all sides in a terrible epidemic, bravely stood to his post; and although urged most earnestly to remove to Loggerhead, with the command, yet was unwilling to expose his men to any danger in which he did not share, and, guided by a strict sense of honor and a conscientious idea of duty, he fearlessly maintained his ground, and while struggling for the interests of both well and sick, he was suddenly himself added to the number of the latter, and died on the 11th of September, after a brief illness of three days.

I cannot but think that had a steamer been furnished this post, upon the first outbreak of the epidemic, and the well portion of the com-

mand immediately removed to some accessible point on the mainland of Florida, many cases would have been prevented and the epidemic brought sooner to a close; for having nothing to feed upon it must necessarily abate. The removal to Loggerhead was the most judicious that could be effected at first, but even that was open to many objections. There not being sufficient house-shelter and no shade by trees of any description, the majority of the men had to live in tents and open boat-houses, and which, considering the intense heat at that time, I greatly feared would be conducive to sickness; and, besides all this, what little wind there was came from the eastward, passing directly from this post to those at Loggerhead, and it is well known that the germs of yellow fever can be disseminated that way. I consider that it was the moral aspect of the move, and from a pestilential place, that had much to do with the healthy condition of the command after their removal.

Before closing this report, I desire to thank the commanding officer of the post for his many acts of kindness, and for his promptness and readiness, not only to listen to the advice given by the medical officers of the post on subjects touching the welfare of the command, but also for the willingness with which the advice has been complied with. Nor is praise less meet or due to the living than the dead; and I would say that although Colonel Langdon arrived at this post on the 6th of September, some ten days after the epidemic had commenced, yet afterward he remained here on duty, giving all assistance in his power, and laboriously exerting himself for the welfare of the sick and well, and in the monetary interests of the dead.

In this connection I wish to express my thanks to Dr. Otto, of Key West, who, upon hearing of the sickness here, immediately volunteered his services, and, without a thought of recompense, repaired to this place to assist, remaining the major portion of the time in the hospital and among the sick. He rendered valuable service not only in personal treatment and superintendence of the cases, but also by such advice as his long experience and knowledge of the disease rendered him peculiarly well fitted to give. Such a genuine act of humanity is truly gratifying to witness; and it is extremely pleasing to me to be able to commend it to the attention of the Surgeon-General and medical director of the department.

It is but justice, also, that I state (and it is with great pleasure that it is done) that Acting Assistant-Surgeon F. J. Gould, U. S. A., on duty at this post, was most faithful and untiring in his duties and attentions to the sick, and that, too, when four of his own family were suffering at the same time from the same disease. If it is not presuming too far, I would respectfully request that his contract be renewed, and he be retained at this post in consideration of the excellent services lately rendered by him.

I am desirous of extending also my thanks to Assistant-Surgeon Harvey E. Brown, U. S. A., who was on temporary duty at this post during part of the epidemic, for many valuable suggestions and advice in treatment of certain cases that arose, which his previous experience in treating yellow fever in other sections of the country, had proven beneficial and useful.

I am also under obligations to Assistant-Surgeon R. S. Vickery, U. S. A. post surgeon at Key West barracks, for the promptness, efficiency, and readiness with which he executed all requests relating to the supplies of this hospital, and for the kindly anticipation of my wishes in forward-

ing immediately such articles as he knew to be indispensable for the sick, both for nourishment and comfort.

To Messrs. Whitaker and Messina much credit and praise is due for their many acts of kindness, both in nursing the sick and in general desire and willingness to be of service. In fact, had not the former of these gentlemen been present, burial cases could not have been procured, nor the dead given a decent burial, there being no carpenter among the enlisted men of the command.

The total number taken sick during this epidemic, including civilians and all the children, was thirty-nine cases, fourteen of these terminating fatally; and although the mortality was comparatively large, yet, taking into consideration the sudden invasion of the disease, and the disadvantages under which I was placed and labored at first, I have many reasons to be satisfied with the success.

I have now given as exact a history of the progress, treatment, and source of the epidemic, as is possible to do in a brief space of this kind. I trust it may meet with your approbation.

I am, general, very respectfully, your obedient servant,

JOSEPH Y. PORTER,  
*Acting Assistant-Surgeon U. S. A., Post Surgeon.*

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KEY WEST BARRACKS,  
*Key West, Florida, October 17, 1873.*

To the Surgeon-General U. S. A.:

GENERAL: I have the honor herewith to present the following remarks relative to the epidemic of yellow fever, which has lately prevailed at Fort Jefferson, Dry Tortugas :

It is presumed that the detailed report of this outbreak of fever will be made by Acting Assistant Surgeon Joseph Y. Porter, the post-surgeon at that station, and I shall therefore confine myself to some statements relative to its origin, the phenomena of the disease, and the treatment adopted.

The accompanying report of the sanitary condition of Fort Jefferson, was made by me to the post-commander, in obedience to his orders, soon after my arrival. It will be seen that while there was much which could be properly considered as affording a congenial soil for the imported germ, there was nothing to warrant the assertion that the disease could have originated at the post, *de novo*, in consequence of bad police or any other factor. We are consequently obliged to fall back on one of two suppositions: either that the outbreak occurred by reason of infection remaining from the previous epidemic in 1867, or that it was due to a fresh importation of the germinal principle. The first of these propositions will not bear investigation, there being nothing in the sanitary surroundings, or the meteorological condition, materially different this year from what has existed every other year since 1867, each of which has been entirely healthy. Even had there been no general epidemic, yet still, if the infection incurred in 1867 had remained in a dormant condition throughout the following winter, sporadic cases of fever would have occurred in 1868 and 1869, which, so far as I am informed, was not the case. Hence, it becomes necessary to adopt the last alternative, and look for an importation from elsewhere as the exciting cause of the fever. I believe this may be found in the following statement, although it is true the evidence is not as decided and complete as could be desired.

On the 9th of August, Charles Gould, aged about twelve years, son of Acting Assistant Surgeon Gould, United States Army, then on duty at Fort Jefferson, left that post and went to Key West with his father. He remained there four days, returning to Tortugas in the United States schooner *Matchless*. Being an active, intelligent boy, he passed his time in Key West in going about the dock, visiting the cattle steamers and fruit and fishing boats just in from Havana, and other shipping at the wharves; among these was the Norwegian bark *Tonsberghus*, which had arrived from Havana in distress on the 9th of August. This vessel had lost two of her crew from yellow fever in Havana, and on arrival her captain was convalescent from an attack of the same disease. She was loaded with sugar. There was no yellow fever in Key West at this time, although a Mr. Townsend, the deputy collector of the port, was ill with what was pronounced by his attending physician to be bilious fever, but which some of the citizens thought was yellow fever. As above stated, Charles Gould returned to Fort Jefferson on the 13th; he was sick with headache, muscular pains, &c., the day he left Key West, but said nothing about it until the 16th, when he took to his bed and then confessed to having felt very bad for several days. His case was pronounced by his father to be bilious-remittent fever. He was sick in bed a week, and during his convalescence was frequently in the soldiers' quarters and about with the men. On the 23d of August Private Joseph Baumstock, of Company M, First United States Artillery, was taken ill with decided symptoms of yellow fever, and died with black vomit and uræmic poisoning on the 27th. Two more cases were brought into hospital on the 25th, one of whom died on the 28th and one on the 30th of August. The same day that Private Baumstock was admitted to hospital, Miss Lizzie Gould, aged thirteen, sister of Charles, was taken sick and had a severe and unmistakable attack of yellow fever, although it is but proper to state that her father adhered to his opinion that it was bilious-remittent. This same day Mrs. Coleman, a laundress, wife of Corporal Coleman, Company M, who lived in the casemate near the officers' quarters, was taken sick, and on the 27th her husband; both undoubted cases of yellow fever; both recovered. After the 26th of the month cases occurred frequently, and the disease was considered as epidemic at the post. Between the 26th of August and the 6th of September, three other children of Acting Assistant Surgeon Gould were taken sick, all with mild, febrile attacks, which were pronounced, as before, remittent fever by the father, but which, in their course and termination, precisely resembled yellow fever as it occurs in those of tender years in the majority of epidemics.

It is doubtful if the following circumstance had any connection with the epidemic, but still it deserves mention as a portion of the history of the post during the period: Early in August a schooner, bound from New Orleans to Havana, foundered in the Gulf, and her captain and crew escaped in a boat and landed at Fort Jefferson, where they were hospitably received and given quarters for a temporary period with the men of Company M. It is not known that this vessel was at all infected, and her captain and crew were entirely healthy so long as they remained at Fort Jefferson; but it is worthy to remark that during his stay the captain occupied the bed of Private Baumstock, who was subsequently the first soldier admitted to the hospital with yellow fever, and whose was the first fatal case.

In reviewing the testimony offered above in regard to the origin of the epidemic, it will be at once noticed that the weight of the argument

hinges on the correctness of the diagnosis in the case of the Gould children. Now, without for a moment presuming to cast a doubt on the ability of Acting Assistant Surgeon Gould to make a correct diagnosis in the premises, it should be borne in mind that it has been the uniform history of every epidemic in the Gulf region that great differences of opinion have existed in regard to the earliest cases. The oldest and most experienced physicians, even those who have made yellow fever a special study, are often deceived in regard to the phenomena attending the first appearance of an epidemic. The cases in the Florence Peters, in New Orleans, in 1867, were confidently pronounced to be typhus fever by several medical men of distinction, and it was not until black-vomit had actually occurred in more than one case that they were disposed to change their opinion. Moreover, this difficulty especially would exist in the case of children, in whom the symptoms of yellow fever are never so well marked as those of adults. They rarely have uræmia and black vomit; the stages of the disease are seldom distinctly defined, and its course more closely resembles that of dengue than true typhus icterodes. Add to this the unwillingness to admit of the introduction of so dread an enemy into an isolated post like the Dry Tortugas, and especially to the father of a large family, and ample reason exists why yellow fever should not have been considered among the possibilities by Dr. Gould in pronouncing his diagnosis. Nevertheless, I am decidedly of opinion that Charles Gould had yellow fever and not bilious-remittent, although I was not present at the post and did not see the case. The case of Lizzie Gould occurred the same day as that of Private Baumstock and Mrs. Coleman, both of which were unmistakable, and though Dr. Gould considered his child's case to be bilious-remittent, Acting Assistant Surgeon Porter, the senior medical officer present, thought it yellow fever, and so informed me.

So far as I could judge from the description given me of the cases as they occurred among the Gould children, few of the phenomena of bilious-remittent fever were present. Briefly considered, the fever was of a mild type, extending over but two or three days, accompanied by decided pain in the head and limbs, unaccompanied by vomiting, and followed by a period of quiescence or stage of calm, leaving the patient much prostrated, but followed by rapid convalescence. This is not at all the history of a case of bilious-remittent, especially of the severe type so universal in the Southwest, while it is a common picture of either mild yellow fever as it prevails in children, or of dengue. The latter disease is excluded by the subsequent history of the post; dengue, so far as I am aware, never prevailed sporadically.

I think, then, that the weight of evidence is on the side of the proposition that Charles Gould contracted the fever in Key West, in some unascertained manner, probably from the Norwegian bark before mentioned, or some of the cattle-boats or small Havana traders. Why he should have done so, and there have been no cases occurring from the same source in Key West, does not invalidate this opinion, such eccentricities being by no means uncommon in the history of the disease. Lieutenant-Commander Mitchell, United States Navy, died on the United States ship Pawnee, in Key West Harbor, on the 14th of September, and a yeoman, from the same ship, died on shore a few days afterward, both with undoubted yellow fever, (the latter with black vomit.) The Pawnee had had on board, for ten days previously, an unusually large number of cases of "bilious-remittent." Were not all these cases probably yellow fever, the diagnosis only being corrected when a fatal case took place? And, if so, where could they have contracted

the infection, except from the same source that Charles Gould did, viz, from the Norwegian bark, which was decidedly infected, or from some other extramural source of disease, imported most probably from Havana or Matauzas in some of the numerous traders between those places and Key West? This view of the subject has an added probability in the following circumstance: A man by the name of Barnes, resident at Miami River, Florida, left Key West for home, in a schooner, on Saturday, the 20th of September; on Monday, the 22d, he was taken sick on board; reached home on Wednesday, the 24th, and died the same night with black-vomit. No other cases followed; but let it be supposed that the disease had shortly afterward broken out among the Key West command, (then encamped at Fort Dallas, about a thousand yards from the residence of the deceased,) can any one doubt that it would have been considered a clear case of importation from Key West, the vehicle for the transportation being the person of the aforesaid Barnes? That such spread of the disease did not occur is due to the prompt and judicious precaution to secure non-intercourse, taken by Captain W. M. Graham, in command of the troops, and Assistant Surgeon R. S. Vickery, the medical officer in attendance.

On the 5th of September I arrived at Key West, pursuant to War Department special orders, and found awaiting me a telegraph dispatch from the medical director Department of the Gulf, directing me to proceed, without delay, to Fort Jefferson, which I accordingly did, arriving there on the morning of the 6th. I found that the command had been transferred to Loggerhead Key, two miles and a half distant, some days before, and that the only persons remaining at Fort Jefferson were the sick and some few soldiers, retained for the necessary duties of the post, together with the families of Doctors Gould and Porter, and the light-house keeper and some other citizens, in all about thirty persons, exclusive of sick.

Acting Assistant Surgeon Porter, (though ably assisted by Doctor Joseph Otto, of Key West,) who, with a self-sacrificing devotion, worthy of special mention, had volunteered his services at the commencement of the epidemic, was very much broken down with the anxieties and labors of the past two weeks, and I was desirous of relieving him at once of all his care, so as to give him needful rest, but he was so unwilling, and seemed so annoyed at anything like being superseded before he had completed the work which the exigencies of the epidemic had forced upon him, that at my request he was continued in immediate charge of the hospital, and Captain Langdon, First Artillery, commanding the post, issued an order, directing me to make an inspection of the sanitary condition of the post. The result of this inspection, which was made in the intervals of constant attendance on the sick, was very imperfect; but is given in a copy of my report to Captain Langdon, herewith appended. After completing this inspection I assumed charge of the hospital, and retained it until the 29th of the month, when I was relieved by Special Orders No. 148, dated headquarters, Department of the Gulf, September 10, 1873, and proceeded to this station.

The epidemic was at its height on the 2d of September, and from that time declined for want of subjects. Every person, with one exception, that came to Fort Jefferson from Loggerhead Key was taken sick, and thus the epidemic was kept up, with varying severity, until the 20th of September, after which no more cases were reported. The last death occurred on the 6th of October. The total number of cases, including the Gould family and other citizens, was thirty-seven; the number of deaths fourteen, or 37.83 per cent.

The epidemic was not wanting in those instances of high-minded devotion to duty, even at the sacrifice of life, which have been so marked a feature of previous outbreaks, both here and in other places. A marble monument in front of the hospital commemorates the bravery and the loss of a distinguished officer of our corps in the epidemic of 1867. In this epidemic a hospital-steward, Samuel Horner, like him, offered up his life on the altar of duty, stricken down while faithfully and fearlessly attending to his duties in the dispensary and the ward. Lieut. James E. Bell, who was the only commissioned officer at the post when the disease made its appearance, died on the 11th of September, of black-vomit—the fatal result, no doubt, confirmed by the mental anxiety and physical hardship he had imposed upon himself in his efforts to assist those placed under his command. The medical officers behaved well, were skillful, industrious, and faithful. Especially is this remark applicable to Acting Assistant Surgeon J. Y. Porter, upon whom fell the burden and heat of the day. The services rendered by a citizen nurse, James Dunbar, a colored man, were invaluable. He was acting hospital-steward after the death of Steward Horner, and performed all that was required of him to the entire satisfaction of the medical officers.

The clinical phenomena noticed did not differ materially from those of other epidemics. The majority of the cases belonged to the inflammatory type, characterized by a high grade of febrile action for from seventy to ninety hours, followed by collapse, uremia, black-vomit, and death. All the fatal cases had either uremia or black-vomit. Delirium was by no means a constant symptom, some of the fatal cases retaining their intellect unclouded to the last; others passing rapidly into delirium soon after the onset of the fever, and dying comatose. In one case the delirium was very violent and maniacal. Generally it was gentle, and the patient could be easily roused to intelligence. Men of intemperate habits succumbed rapidly. There was no instance of recovery in one of this class. The pulse, in the stage of tumult, varied from 95 to 115; seldom above the latter. During the stage of calm, it was nearly natural; and in collapse it either fell to a remarkable degree, retaining its volume, or else rose decidedly, becoming weak, thready, and almost imperceptible. Both of these indications foreshadowed an unfavorable issue—the latter, perhaps, the more so. The temperature ranged during the first stage from 102 to 105; fell to about 100 in the stage of calm; and, if collapse took place, rose again; while, if convalescence followed, it retained, for some days, the same degree as during the stage of calm. The temperature, at the moment of death, was 100 in a number of cases. All observations with the thermometer were taken beneath the tongue. The tongue was generally but moderately coated, and remained moist. In one case it became brown and cracked, and this case passed into a typhoid condition, and died on the sixteenth day. There was nothing of note observable about the bowels. They were generally regular. Yellowness of the skin was not noticed in any case until after death. Diaphoresis was not difficult to produce. The eyes were red, injected, and ferretty. The peculiar odor of the exhalations from the skin was most marked, and very offensive. Nearly every case had more or less suppression of urine, which was persistent only in those which progressed to a fatal termination. There were but few relapses—none of them fatal. The prostration, after the stage of calm, was very great, and emaciation very decided. Convalescence was slow.

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I have the honor to be, general, very respectfully, your obedient servant,

HARVEY E. BROWN,  
*Assistant Surgeon United States Army.*

FORT JEFFERSON, September 8, 1873.

Captain L. L. LANGDON,

*United States Artillery, Commanding Post:*

CAPTAIN: In obedience to Special Orders No. 102, dated headquarters, Fort Jefferson, Florida, September 6, 1873, I have the honor to make the following report of the sanitary condition of the post:

An epidemic of yellow fever having prevailed at this post for upward of two weeks, and the majority of the command having been ten days ago moved to Loggerhead Key, leaving behind only the sick, convalescent, and those whose duties rendered it impossible that they could be spared, it follows as a matter of course that the general police of the garrison has been suspended during the above period, nevertheless, the appearance of the parade, the galleries, the wet ditch, the sea-wall, &c., is such as to force the conclusion that they must have been in admirable condition at the time of the outbreak of the disease now prevailing, and without entering into detail, it may be confidently asserted that there is nothing about the post, within the control of its commanding officer, which could unfavorably influence either the origin or spread of an epidemic.

In regard to the buildings within and without the work, a few words must be said. While the hospital, officers' quarters, soldiers' barracks, &c., are in good police and kept carefully cleaned, yet I would suggest certain alterations, which, though too late to be of any avail in controlling the present epidemic, will, in my opinion, if carried out, decidedly improve the sanitary condition of the garrison, and render it better prepared to meet future ravages of the pestilence. There are a large number of outbuildings at the post, many of which have wooden roofs which have decayed with time. This decay is hastened in this climate by the frequency of the rains, and the great consequent amount of moisture constantly in the atmosphere. All of these roofs should be removed and replaced with slate. At the west end of the officers' quarters is a shed apparently only used for the storage of lumber; this shed is decayed, and beneath it, resting on the ground, is a considerable quantity of old lumber, planks, beams, joists, all more or less in process of decay and covered with fungi. This shed and its contents should be destroyed or removed.

The same remark is applicable to a number of wooden shanties in the vicinity of the wharf outside the work. They are all in very bad condition, and should not be permitted to remain where they are. It is not thought that any measure short of their removal will be sufficient to put this portion of the Key in proper sanitary condition.

An important element in the development of disease at this post in former times has been the location of the sinks of the men and hospital directly in rear of the hospital cook-house. As these have been for some time closed, (at least those for the use of the men,) and new sinks of excellent construction, and outside, placed over tide-water, it is only necessary to remark that they probably have not been a factor in the production of the present epidemic, yet to guard against the possibility

of their ever being, in the future, it would be better that they should be entirely filled up and destroyed and the privy-sheds taken away.

The sewerage of this post, in my opinion, is defective; however much it may be in accordance with correct engineering principles, practically it is in defiance of true hygienic ideas. As I understand it, the sewers empty into the moat surrounding the fort, and are intended to be so arranged that the water will flush through them at high tide, a gate being fixed at the orifice so as to prevent the water from entering before the said gate is opened. Now there are two defects about this arrangement. In the first place the gate above spoken of is not water-tight, and consequently the water actually does not, when the gate is opened, flow with sufficient force into the sewers to flush them out; and in the second place, the orifice of the sewers is far below low-water mark, so that the tide rises gradually in them instead of suddenly, thus practically rendering any thorough cleaning of the sewers abortive. Without pretending to a practical knowledge of the construction of sewers, it seems to me that the indications called for may be best met by doing away with the gates before spoken of altogether, as they are entirely useless in their present condition, by having the orifice of the sewers some distance above low-water mark, and by flushing out the sewers daily by means of water pumped into them by steam power. So far as my experience goes, tidal cleansing of sewers is always insufficient, unless the water is kept entirely out of the pipes until the tide is at full flood, and then allowed to flow suddenly into them. This is not possible with the present arrangement at this post.

A further matter, which may have an effect on the sanitary condition of the post, is the decomposition of coral and other marine animals on the Key, in the neighborhood of the post. To what it is due I cannot positively say, but it is a fact, that whenever the wind blows from the Keys nearest the post, a most offensive and putrescent smell is noticed—so strong at times as to be almost insupportable. I do not know to what cause to ascribe it, unless to the death and decay of marine animals, as above indicated. Whatever may be the cause, it must be a decided factor in the development of disease, and unhappily is entirely beyond the control of the authorities of the post.

As regards the hospital, the management of the sick, the conduct of the medical officers, &c., I believe I can conscientiously make a favorable report. Acting Assistant Surgeon Porter has been devoted and attentive to his duties. A very discouraging circumstance was the death of Hospital-Steward Horner, a most useful official in times of pestilence; so that the records of the hospital have necessarily fallen somewhat in arrears, but no neglect in consequence of this calamity has been permitted toward the sick. A very competent man was fortunately obtained from Key West, in the person of a mulatto, named James Dunbar, who was employed as a citizen nurse, and placed on duty as acting steward. This man has done his duty in the most admirable manner, and deserves the highest praise for his fidelity.

Dr. Otto, of Key West, came here as soon as it was reported that the fever was raging, and the command owes him a deep debt of gratitude for his services. Volunteering without pay, actuated only by those high principles of humanity which induce the conscientious physician to give his services to the suffering whenever they are needed, he has passed day and night by the bedside, and has been the means, not only of relieving Acting Assistant Surgeon Porter from much anxiety and labor, but also of causing much positive relief to the sick

by his energetic endeavors. I hope that some measures will be taken to secure to him the thanks of the War Department for his services.

As regards the treatment of the sick, it is very difficult to say anything. The types of the disease differ so widely in different epidemics, that it is simply impossible to lay down any routine treatment. That adopted by Dr. Porter has the support of many of the most experienced in the profession, and is in accordance with what we know of the pathology of the disease. More than this I should not feel justified in saying, unless I had been an eye-witness of the treatment of every case. I can, however, truthfully say that, in my opinion, every case that has come under my own observation has been properly treated, and that the percentage of recoveries, if large, is due to Dr. Porter, and to him alone, as I have thus far only given my advice as consulting medical officer.

I have the honor to be, captain, very respectfully, your obedient servant,

HARVEY E. BROWN,  
*Assistant Surgeon United States Army.*



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SPECIAL REPORT  
OF  
ASSISTANT SURGEON GEORGE M. STERNBERG,  
ON THE  
OCCURRENCE OF YELLOW FEVER  
AT  
FORT BARRANCAS, FLORIDA.

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SPECIAL REPORT OF ASSISTANT SURGEON GEORGE M. STERNBERG, ON THE  
OCCURRENCE OF YELLOW FEVER AT FORT BARRANCAS, FLORIDA.

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FORT BARRANCAS, FLORIDA,  
*November 25, 1873.*

The SURGEON GENERAL *United States Army*:

GENERAL: I have the honor to submit the following special report in relation to yellow fever at Fort Barrancas, Florida, during the months of September, October, and November, 1873:

Yellow fever had been epidemic in Pensacola for some time, and numerous deaths had been reported in New Orleans, when the first case occurred at this post. From one or other of these sources the germs were doubtless brought which gave origin to the disease here. The cities referred to received the disease, by direct importation, from Havana—Pensacola by the ship Golden Dream, which arrived on the 19th of June, and New Orleans by the bark Valparaiso, which arrived about the 20th of June.

Dr. R. K. Hargis, of Pensacola, writes me as follows, in relation to the introduction of yellow fever to that city, August 20: "The Golden Dream arrived on the 10th of June, was sent to the quarantine station, and remained there until 3d July, when she was admitted to pratique. No deaths after her arrival until the 5th instant, when one of the new crew, that had been shipped eight days previously, died after an illness of three days; had black-vomit. Two other men sick at the time, and it is reported that both died, but I cannot obtain any reliable information in regard to the facts. The ship has gone to sea. I attended a case on board the bark Bismarck, that died yesterday morning after having black-vomit. This vessel was moored to the end of the Perdido Railroad wharf, a few hundred yards from the Golden Dream, with which the crew had frequent intercourse. This unfortunate vessel will, no doubt, be swept of her crew, from 'stem to stern,' in less than ten days."

"The Golden Dream discharged the greater part of her ballast on the other side of the bay; the remainder was not removed. A few tons of coal was delivered to parties ashore; she was never at the wharf. She was loaded a few hundred yards from the Central wharf.

"My first and second cases occurred on the 10th August, third on the 11th, fourth and fifth on the 13th. Four only of my cases were known to have been on board the Golden Dream. The Golden Dream was lying about half a mile from my second case, which was nearest the wharf.

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"The disease has been confined to one particular district, lying northeast or to the leeward of the infected vessel."

My friend, Dr. C. S. Russell, secretary of the board of health for the city of New Orleans, in a letter to me dated August 20, 1873, gives the following account of the origin of yellow fever in that city during the present season:

"Our first case was from the bark Valparaiso, which left Havana June 16; arrived here; was detained at quarantine until June 26; came up to the city; all well until the 4th of July, when the mate was taken sick with yellow fever, and died of it on the 8th of July. The bark communicated it to the river-steamer Belle Lee, (lying at the wharf above,) and to the Wm. R. Pike, still above the Lee.

"Well, we have had, from this source, ten cases and seven deaths.\*"

The subject of a quarantine against yellow fever, and the precautions that should be taken to protect the garrison of this post, in case it made its appearance in our vicinity, was fully discussed by the commanding officer and myself early in the season, and we entirely agreed as to the probable avenues by which it might reach us, and the proper steps to be taken to prevent its doing so.

General Bannan, the commanding officer, having had yellow fever at Vera Cruz, in 1848, and having passed through a severe epidemic at this post in 1853, entertained a wholesome dread of the disease, and determined to leave nothing undone which a wise foresight could accomplish for the protection of his command. With this view, he wrote to the Quartermaster-General and the commanding officer of this department, requesting that all supplies for the post which had to come from or through New Orleans be sent as soon as possible and in sufficient quantities to last until the first of December. His request was partly complied with, and we received no stores from New Orleans from the 29th day of August until the 24th day of October.

This was very satisfactory, so far as any direct communication with New Orleans was concerned, but unless our neighbors on the Navy reserve took the same precaution, the enemy might obtain a strong position in the village of Warrington, and threaten our left flank so seriously as to necessitate a retreat to Fort Pickens. This was our greatest danger, as this avenue of approach was beyond our control.

Fortunately, however, the commodore commanding the naval reserve fully appreciated the importance of quarantine restrictions, and as soon as it came to his knowledge that cases of yellow fever had occurred in Pensacola, issued an order forbidding all intercourse with that city, and stationed a guard of marines at the Big Bayou bridge to enforce his order.

It can hardly be supposed, however, that this was effectual in preventing all intercourse with the infected city. Any one inclined to evade the quarantine could easily do so by going around the head of the bayou, or by crossing it in boats. That some of the colored population of Warrington were seen in Pensacola during the continuance of quarantine, I am credibly informed.

The supplies for the Army and Navy and goods required by the merchants of Warrington are mostly brought from New Orleans by the steamers Amite and Lizzie, which ply between that city and Pensacola. Yellow fever having made its appearance in both these cities about the same time, neither one was inclined to establish a quarantine against the other, and these vessels were allowed to make their regular trips. The Lizzie, however, was laid up for repairs during the greater part of the season; but the Amite made her regular trips during the whole

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\* The following figures from the weekly mortuary report of the board of health of the city of New Orleans show the number of deaths in that city from yellow fever for each week from June 29 to November 1: June 29, none; July 6, none; July 13, 1; July 20, none; July 27, 1; August 3, none; August 10, none; August 17, 2; August 24, 8; August 31, 6; September 7, 16; September 14, 35; September 21, 26; September 28, 21; October 5, 14; October 12, 24; October 19, 11; October 26, 11.

touched at Warrington on each trip to deliver goods for the merchants of that town.

time that yellow fever prevailed in New Orleans and Pensacola, and

It will no doubt seem strange that the commodore, after shutting the back door to the reserve, by his marine guard at the Bayou bridge, should open the front door to a vessel plying between two infected ports. It must be remembered, however, that the citizens were entirely dependent on external sources for nearly all their provisions, and would starve to death in four weeks if obliged to depend on the productions of the country.

For a time the Amite was not allowed to come to the wharf, but discharged her freight on a flat-boat anchored some distance from the shore, and no direct communication was allowed between the vessel and the town. Some effort was also made to disinfect those portions of her freight which were supposed to be most likely to convey the infection. How thoroughly this was done, I do not know; but that these precautions probably failed to prevent the introduction of yellow-fever germs, in at least one instance, I shall shortly proceed to show. Before leaving the Amite, I wish to call attention to a precaution taken by the captain, which gave great comfort to the good people of Warrington, and which some of them believed made it quite out of the question for that vessel to introduce yellow fever into their midst. The captain discharged his white crew, and only employed negroes, who were supposed not to be susceptible to the disease, and consequently not able to convey it. Recent experience has proved that the negro has no immunity from the disease, although it usually assumes a mild form with him; still, fatal cases are not uncommon, as was proved by the late epidemics at Shreveport and Pensacola. But, supposing the captain's assumption that the negro was not susceptible to the disease to have been correct, it is evident, in the light of our present knowledge of the nature of the poison, that it could have been carried by infected articles taken as freight, or in the clothing and about the persons of the crew, or that the whole vessel might have been infected, and capable of distributing yellow-fever germs, wherever she went, and that the fact that the crew was not susceptible to the disease, only made it the more dangerous. The non-occurrence of cases of fever on board would give a false confidence to ignorant people; whereas if a single case had occurred, they would have avoided the vessel.

It is a well-known fact that the mass of the people are always a long way behind the doctors in surrendering time-honored ideas in regard to the nature of any disease. This is well shown in the prevalent notions regarding yellow fever in all the southern sea-ports. While but few intelligent physicians now believe in the local origin of the disease, a majority of the old residents cling to this theory with great tenacity, and, ignoring the mass of facts which prove the contrary, insist upon the inutility of quarantine restrictions. This has been, and is, one great obstacle in the way of an efficient administration of quarantine laws.

Public opinion must necessarily influence, to a greater or less extent, officers who hold their positions subject to the will of the people; and when the officers themselves have no very definite ideas as to the source and nature of the disease they are called upon to protect the people from, it is not surprising that they are influenced by the clamor of those whose interests and prejudices are opposed to quarantine.

In the city of Pensacola there is not a physician upon the board of health. In the interests of individuals and the supposed interests of commerce, the Golden Dream was allowed to come to the city and take

on board a load of lumber when it was known that she came direct from Havana, and that several deaths from yellow fever had occurred among her crew. It is true that she was detained at quarantine for a period of twenty-three days, and that no new case had occurred on board for twenty-five days; but this did not alter the fact that she was from an infected port, and was demonstrated to be an infected vessel. Had there been an intelligent physician on the board of health he would doubtless have foreseen and pointed out the almost absolute certainty that the Golden Dream, if allowed to come to the city, would communicate yellow fever to citizens, who, in the capacity of stevedores, or otherwise, had business on board of her. But "history repeats itself." There had been no epidemic of yellow fever in Pensacola since 1867. The lumber trade was flourishing, and the commercial interests of the place seemed to demand that the Golden Dream should be loaded and sent to sea as quickly as possible. Many old residents and influential men were strong in the opinion that there was no possible danger in permitting her to do so. The result was sixty-two (62) deaths from yellow fever, a complete prostration of all branches of business for the balance of the season, and a blow to the commerce of the place which will be felt for years to come. If the Golden Dream had been sent to sea without her load of lumber, or detained at the quarantine station until frost, the effect upon commerce would doubtless have been to keep other vessels from infected ports from coming to Pensacola for lumber during the yellow-fever season. But this very prohibition, when it became known, would induce shippers in Boston and New York, and other northern ports, to send vessels to Pensacola direct for freight. There is good reason to believe that in time commerce would be benefited rather than injured by such a course. The same argument will apply, to a greater or less extent, to all our southern sea-ports. To carry out such a plan necessitates a revision of the quarantine laws now generally in force.

Dr. C. S. Russell, in giving me a history of the introduction of yellow fever to New Orleans by the Valparaiso, says, "Now, I am satisfied that time only is nothing at quarantine unless the ship and cargo be thoroughly disinfected. Without disinfection, and perhaps breaking of cargo, it only gives the poison time to grow in strength and power." That this is the case there can no longer be any doubt. The introduction of yellow fever to the cities of New Orleans and Pensacola by vessels which had been subjected to the quarantine restrictions required by law, proves conclusively the inadequacy of the laws now in force. Under the present quarantine laws of our southern sea-ports, the non-occurrence of cases of yellow fever on board a vessel, after a certain time has elapsed since leaving an infected port, is taken as evidence that the vessel contains no infection. The insufficiency of this evidence is shown in the case of the Valparaiso. When we consider that the crew of a sailing-vessel is small; that the sailors on vessels from infected ports are often protected by having had a previous attack of the disease; and, lastly, that it is the interest of master and crew to conceal or misrepresent the facts in regard to any sickness that may have occurred, to avoid detention at quarantine, it cannot be accepted as proven that a certain vessel did not bring infected articles into port, because no evidence of sickness during the voyage can be elicited. In view of these facts, it is evident that to keep yellow fever from our shores it will be necessary (*a*) to prohibit all intercourse with infected ports during yellow-fever months; or (*b*) to detain vessels from infected ports at the quarantine station until frost; or (*c*) to destroy all yellow-fever germs

by disinfection of vessels, cargo, and crew, detaining the vessel no longer than is necessary to accomplish the purpose. Whether the last-named plan can be reduced to successful practice is still uncertain. If it can, it is doubtless the method which would interfere the least with the interests of individuals and of commerce.

Having, on the evening of September 26th, satisfied myself that Privates Farrel and King, patients in the post-hospital, had yellow fever, I at once reported the fact to the commanding officer of the post, and recommended the immediate removal of the command to the camping-ground near Fort Pickens, which had been selected some time previously in anticipation of such an emergency.

On the morning of September 29th, the movement into camp was completed, and from that time until November 20th, every precaution has been taken to prevent the infection from reaching the troops in their harbor of safety. Rations were taken to last until the 1st of November, and nothing that could by any possibility convey the poison was allowed to go from our side of the bay to the camp until it had been thoroughly disinfected.

The mails were disinfected by subjecting them to the fumes of burning sulphur in a close box constructed for the purpose.

A boat was sent daily from Pickens to the Barrancas wharf, but the crew was not permitted to land, and the boat remained no longer than was necessary for the exchange of the mail.

After the removal of the main part of the command into camp, there remained at Fort Barrancas three officers and twenty-six enlisted men. The officers were General Bannan, commanding post, (General B. had yellow fever at Vera Cruz, in '48,) Assistant Surgeon Sternberg, U. S. A., post-surgeon, and Lieutenant Andrass, First United States Artillery. Lieutenant Andrass was confined to his bed by a mild attack of typhoid fever. On the 18th of October he had recovered his strength sufficiently to enable him to join the command in camp. Of the enlisted men remaining, fourteen were at the post hospital, eight as patients, one hospital-steward, one ward-master, three attendants, and one cook. The remaining twelve men were on duty, as follows: One commissary-sergeant, one ordnance-sergeant, one sergeant for signal duty, three teamsters, one mail-carrier, one gardener, one orderly for the commanding officer, one man as nurse for Lieutenant Andrass, one man as cook, one carpenter. There were also remaining at Barrancas Mrs. General Bannan, (Mrs. B. had yellow fever in '54;) Mrs. Sternberg, wife of the post-surgeon; the wife and child of the commissary-sergeant; the wife and three children of Private Davis; (Davis was kept because he had had yellow fever, and his family on account of the sickness of the youngest child;) the wife, grown daughter, and child of Private Schwartz, a hospital attendant. (Two children belonging to this family died of yellow fever on the 28th September, the day before the command moved.) The officers who accompanied the troops into camp were directed to send at once to Barrancas any man who might present symptoms of fever. Under these instructions three men were sent back to the post, viz, Corporal Mathew, of Company L, on the 31st September; Private Goetsche, of Company A, on the 3rd October; and Private Hastings, of Company L, on the 9th of October. None of these men turned out to have yellow fever, and the two first named were able to go to duty within a few days, their complaint having been of a trifling nature. Hastings was retained in hospital on account of a chronic bronchial affection, and on the 23d of October was taken sick with a mild attack of yellow fever,

Private Goettsche was also afterward taken sick with yellow fever October 31st.

On the 2d day of October, Dr. B. J. Byrne, acting assistant surgeon United States Army, reported for duty at the post, and was immediately sent to the camp near Pickens, where he remained until the return of the command to Barrancas.

The measures taken were entirely successful in protecting the command from yellow fever, and the general health of the troops was excellent during the whole time they remained in camp.

The further history of the disease at Barrancas renders it highly probable that but for the timely removal of the troops very few would have escaped an attack of yellow fever, and, doubtless, many lives would have been lost.

As soon as the diagnosis of yellow fever was established in the cases of Farrel and King, I determined to make every effort to arrest the progress of the disease by the use of disinfectants. Upon my recommendation an ample supply of disinfectants had been procured by the acting assistant quartermaster of the post, in anticipation of such an emergency, viz, carbolic acid, roll sulphur, chloride of lime, and sulphate of iron. With this view every room in the hospital building was thoroughly fumigated with sulphurous-acid gas. The floors of the wards, passages, and galleries were daily sprinkled with a solution of carbolic acid. The fumigation was several times repeated during the first week, and afterward at longer intervals. Carbolic acid was also freely used about the company quarters. All the privies at the post were regularly disinfected with sulphate of iron and chloride of lime twice a week.

The Schwartz family were removed on the day of the death of his two children from the small house near the hospital in which they lived to a vacant house situated some distance from the hospital. All their bedding, clothing, &c., was thoroughly fumigated, and the house in which they had lived was disinfected with carbolic acid and sulphurous-acid gas. (NOTE.—No more cases of fever occurred in this family.) The clothing which had been worn by Farrel and King when they were taken sick was burned, and all bed-linen, &c., used in the yellow-fever ward was immersed in a solution of carbolic acid for several hours before being sent to the matron (Mrs. Schwartz) to be washed.

No new cases occurred in the hospital from the 25th of September until the 14th day of October, when Private Haskin, a hospital-attendant, was taken sick. This case presented the symptoms of remittent fever more prominently than those of yellow fever, but the appearance of albumen and tube casts in the urine on the fourth day makes it probable that the case partook, to some extent, of the nature of both diseases.

If we suppose that this man received the yellow-fever poison into his system at the same time, and from the same source, as the cases which occurred on the 23d and 25th of September, we have the evidence that the remaining inmates of the hospital (six in number) escaped the disease until October 23d, in support of the presumption that the measures taken were successful in destroying the infection which had been originally brought to the hospital, and which gave rise to the four cases occurring on the 23d and 25th of September.

The following extract from a letter addressed to the Surgeon-General on the 26th day of September, will show how I account for the introduction of yellow-fever germs to the post-hospital:

"I have been called this afternoon (September 26th) to see the two

children of Private Schwartz, who lives in a small frame house less than thirty yards distant from the hospital. Both have high fever, flushed faces, and headache, (no chill.) It will be seen that two of the cases of fever reported (Privates Farrel and Clark) have been continuously in hospital for some time past, and that Private King and Sergeant Adams were discharged from hospital but a few days before they were taken with their present sickness. The post-hospital, therefore, seems to be the infected point, and the question arises, how was the disease brought here?

"No cases of fever have been reported in the neighboring towns of Warrington and Woolsey, or the naval reserve. No direct communication has been permitted with the infected cities of Pensacola and New Orleans since it has been known that yellow fever was prevailing in those cities; but, depending upon the quarantine established by the commodore commanding the naval reservation, and believing that it would be time enough to establish a quarantine against the towns thereon when a case of yellow fever was known to have occurred there, visits to these towns for the purchase of provisions, &c., have been permitted up to the present time.

"Upon inquiry made last night, I found that the hospital-steward purchased, on the 15th instant, a barrel of potatoes from Mr. Quayle, a merchant of Warrington. This barrel was brought to the post-hospital on the same day, and the potatoes were emptied on the floor of the store-room. A few rotten potatoes were picked out and thrown over the fence (toward the house where two children have fever this afternoon.) I drove to Warrington this morning and inquired of Mr. Quayle where the barrel of potatoes purchased by the steward came from. He informed me that it was one of four landed by the steamer Amite on the day that they were purchased. Two barrels of the four remain in his store unopened, and the other he has sold out by the peck. The steamer Amite is plying between the infected cities of Pensacola and New Orleans, and has been permitted by the commodore commanding the naval reserve to bring certain articles for the merchants of Warrington, and leave them upon a flat-boat anchored out in the bay at a considerable distance from the Warrington wharf. \* \* \*

"It may hereafter prove that yellow fever has reached this hospital through some other channel than the one suggested; but to me there seems nothing improbable in supposing that a barrel of potatoes brought from the infected city of New Orleans by the probably infected steamer Amite, and opened in the hospital on the 15th, may have contained germs, which, finding favorable conditions for their development, have given origin to the cases of fever now in the hospital-wards."

I have since learned that some of the potatoes purchased by the steward were sent, soon after the barrel was opened, to the house where the two children died, in payment for potatoes previously borrowed.

A second center of infection developed itself during the month of October, and furnished a number of additional cases.

There are four brick buildings immediately in rear of the barracks, a three-story brick constructed for laundress quarters. One of these was occupied by Commissary-Sergeant Clifford and Private Davis, with their families, and is the infected locality referred to. Private Davis's youngest child, aged three years, was sick when the command moved into camp. This child had been ailing for about two weeks. It had at first a slight fever, which I took to be remittent, and which passed off in a few days under the use of small doses of quinine. This was followed by debility and some irritability of stomach. The child got better, and had been

up and playing about the house for some days, when it had a return of fever and irritability of stomach. It, however, presented no symptoms to create especial uneasiness until the morning of September 30, when it was taken with convulsions, which continued until its death on the afternoon of the same day. If this was a case of yellow fever (as seems probable in the light of what follows) it was the first case at the post, unless we go back for nearly a month to a case which occurred in the same house, and of which the following is the history, taken from my note-book : "Called to see Mrs. Clifford, wife of commissary-sergeant, at 1 p. m., August 29th. Had a chill in the morning; has vomited two or three times; headache; pain in the back; eyes congested; pulse 120; temperature 104°; bowels moved yesterday. R: Quinine, ten grains; calomel, ten grains; take at once. 5.30 p. m., temperature 103.5°; to take an ounce of castor-oil. August 30, 7 a. m., feels much better; oil operated freely; temperature 100°; pulse 100. R: Quinine twenty grains; make three powders; one every four hours. August 31st, has no fever; complains of ringing in ears and feeling sick at stomach; discontinue quinine and apply mustard-plaster to stomach. 4 p. m., is up and about the house, (contrary to orders;) directed to keep quiet, and take a quinine powder at bed-time. September 1st, feels well, and will not stay in bed any longer."

I treated the case upon the supposition that it was one of remittent fever, but marked at the time that it was not usual for remittent fever to yield so promptly to treatment, and that, if yellow fever were prevailing at the post, the case would, without doubt, be diagnosed as one of that disease. This patient suffered from a second attack of fever during the month of October, which, being diagnosed as yellow fever, was treated without the administration of quinine, and which coincided in every particular with the first attack, and was followed by a relapse. I am inclined to think that Mrs. Clifford has suffered two attacks of yellow fever this season, and that her first attack was the first case at the post.

The remaining inmates of this house were taken sick with yellow fever in the following succession: Davis's second child, aged six years, September 29th; Mrs. Clifford, October 11th; Mrs. Davis, October 15th; Sergeant Clifford, October 19th. (NOTE.—Private Davis had yellow fever in 1858. He and his oldest daughter and Sergeant Clifford's child, aged two years, escaped the disease entirely.) Three of the men who were retained at Barrancas for duty were taken sick with yellow fever; Private Quinn, a teamster, on October 14th; Bugler Hunter, retained as cook, on October 14th; and Allen, the gardener, on the 15th. These men had their meals in the second building from the one occupied by Clifford and Davis. Hunter was in the habit of visiting at Davis's quarters, and Quinn had his washing done by Mrs. Davis. These were well marked cases of yellow fever. Allen slept in a house near the garden, and I cannot ascertain that he had been in the infected house; but, in coming to his meals, he would pass directly in front of it. His case may be considered a doubtful one, and, if yellow fever had not been at the post, would readily have passed for a mild case of remittent. Quinn, Hunter, and Allen were taken into the hospital, and Quinn died there on the 21st October.

On the 23d Hastings, and on the 25th Johnson, were taken sick with what I believe to have been a mild form of yellow fever. These cases do not invalidate the supposition that the infection first brought to the hospital was destroyed by the measures taken. It seems more probable that these cases were due to a fresh importation of the poison brought

to the hospital by Quinn and Hunter, rather than that they were from the original source. The next case occurred on the 31st in the person of Private Goetsche. This man cooked for the enlisted men at the post after Hunter was taken sick and slept in the mess-room.

The next case, and the last of the season, was that of Ordnance-Sergeant Alfred Paxson, who was taken sick November 8th, and died November 12th. Sergeant Paxson occupied a house about sixty yards distant from Clifford and Davis's quarters, and his case and the preceding one are doubtless to be traced to this source of infection.

How or when yellow-fever germs were first introduced into the house occupied by Clifford and Davis I have been unable to ascertain, but the most plausible theory seems to me to be indicated by the following facts:

There has been considerable sickness among the colored population of Warrington during the past three months, particularly "on the hill," a locality isolated from the rest of the town, and occupied almost exclusively by colored people. A certain Dr.(?) Clark has attended most of these patients, and I am told that he pronounced the disease "biliary fever." I had no clear account of the nature of the fever, except in one case, which proved fatal. This was a man, named William Thompson, who was taken sick September 23d, and died September 28th. The man's wife informs me that he was first taken sick with a severe chill and pains in his limbs, back, and head. This was followed by high fever. She gave him a dose of castor-oil and warm tea to drink, and the next morning he felt so well that he got up, and was around the house through the day; that he took cold, and had a return of the fever in the evening, which continued until his death occurred; that he vomited frequently, and passed but little urine for two or three days before his death. After death his back turned a dark-purple color, but otherwise he looked natural. After this, her two children were taken sick with "the same kind of fever." Dr. Clark, who attended them, was also taken sick with fever, which kept him in bed for a few days. Other cases occurred in the neighborhood. I also hear of cases of fever in other localities in Warrington and Woolsey, and of one death, (an old man, employed as watchman in the navy-yard.) This man died after a brief illness, and the history of his case, as given by Dr. Pierce, the attending physician, would answer very well for one of yellow fever occurring in an old man of intemperate habits.

As I did not see any of the cases referred to, I cannot say that they were yellow fever; and the two citizen physicians, under whose care they came, do not, I am informed, admit that any cases of yellow fever have come under their observation during the past season. My own impression is that yellow fever, of a mild type, has prevailed to some extent among the colored population of the towns on the naval reserve.

My main reason for this belief is that malarial fevers have not been prevailing among the troops at this post, or, so far as I can learn, among the white residents on the naval reserve. It is therefore difficult to believe that remittent fever has been common among the colored population "on the hill" (an extremely healthy location) of so severe a form as, in one instance, to have terminated fatally in five days. My belief is that the colored population in the South have much to do with the distribution of yellow-fever germs. But owing to the fact that when they are sick they seldom call a physician except in extreme cases, and that yellow fever is with them usually a mild disease, their sickness very generally escapes attention, or the nature of it is misunderstood.

It is well known that many distinguished southern physicians have

declared the negro to be exempt from yellow fever. This has recently been disproved in numerous instances. In the city of Pensacola, during the past summer, there have been a large number of cases, and several deaths among the colored population, and in Shreveport the mortality among the negroes has been considerable.

It may be asked how I account for the fact that yellow fever has not become epidemic in the town of Warrington, and in the navy-yard, if cases occurred "on the hill" so early as the last of September.

The white population of Warrington is substantially the same as it was in '67, when yellow fever was epidemic, and a large number of deaths occurred. There are therefore very few persons in the town who are susceptible to the disease. The detachment of marines being stationed for guard duty on the Pensacola side of the Big Bayou bridge were completely isolated, and consequently safe from the infection, and, lastly, the locality referred to is separated from the remainder of the town by a considerable interval.

Last year yellow fever prevailed in the navy-yard during the month of October, and a number of those now residing in the yard had the disease at that time. It did not, however, extend among the population of the adjacent town.

I regret exceedingly that I am not able to trace the introduction of the disease to the Clifford and Davis house with certainty; but if, as I suppose, cases had previously occurred among the colored population of Warrington, it is not difficult to understand how it may have been brought to this house. Both Mrs. Clifford and Davis were in the habit of employing colored women to help them with their washing. \* \* \*

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Very respectfully, your obedient servant,

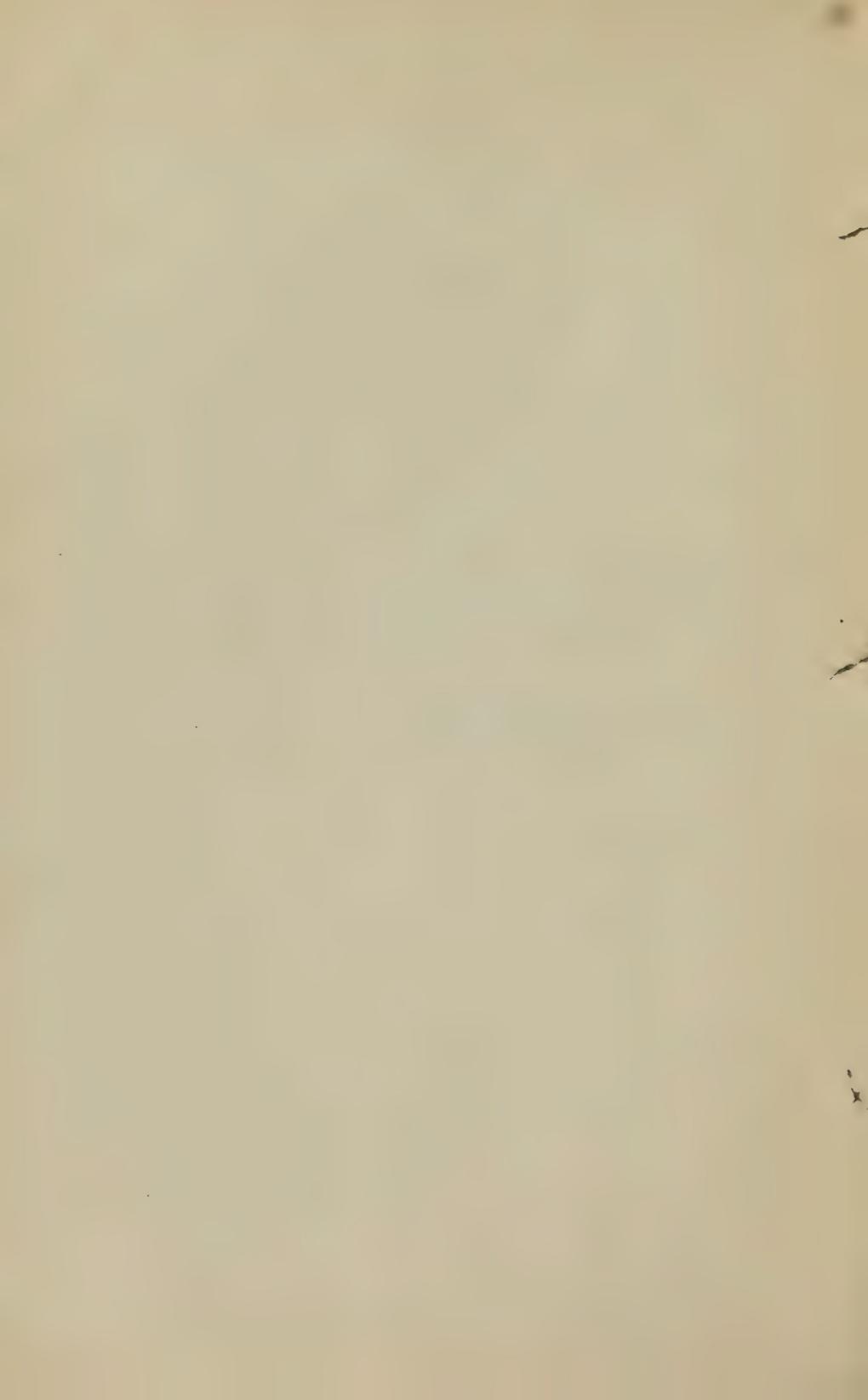
GEORGE M. STERNBERG,  
Assistant Surgeon *United States Army.*

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REPORT  
OF  
ASSISTANT SURGEON R. S. VICKERY, U. S. A.,  
ON THE  
REMOVAL OF THE GARRISON FROM KEY WEST  
TO  
CAMP DALLAS, FLORIDA.

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H. Ex. 85—3



REPORT OF ASSISTANT SURGEON R. S. VICKERY, U. S. A., ON THE REMOVAL  
OF THE GARRISON FROM KEY WEST TO CAMP DALLAS, FLORIDA.

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CAMP DALLAS,  
MOUTH OF MIAMI RIVER, FLORIDA,  
*October 2, 1873.*

To the SURGEON-GENERAL *United States Army*:

GENERAL: I have the honor to report that all the troops from Key West barracks, Florida, with the exception of Acting Assistant Surgeon Wm. F. Cornick, left in charge, with one non-commissioned officer and six men, moved to this camp on the 16th September.

About two weeks before that time the yellow fever had appeared at several points on the coast and the Gulf States, and, in a malignant form, as near to us as Fort Jefferson, Dry Tortugas, Florida.

The commanding officer of the United States hospital ship Pawnee died of it on board his ship in the harbor at Key West, on the 14th of September, and a case likely to be fatal was reported in town on the same day.

I then strongly recommended the post-commander, Captain W. M. Graham, First Artillery, to move the command without delay, which he did on the second day after, on the United States engineer steamer Albatross, which Mr. Babcock, assistant engineer, kindly placed at his disposal for the purpose.

There were several cases of remittent fever in the command before we moved, and two severe ones on the steamship, but there were no new cases since we landed, and the sick are all recovering.

There was a case of yellow fever here in the person of a Mr. Barnes, a resident of this place, living just across the Miami River. He visited Key West for a few days on business about the time we were leaving there. He left on the 20th September in his schooner, was taken sick on the 22d, lay on deck until his arrival here on the evening of the 24th, and died that night with black-vomit. I attended him through the night, and had no doubt about the diagnosis. The disease has not spread, and I am informed has never been epidemic on this part of the coast.

We have a very pleasant, healthy camp here on the site of old Fort Dallas, on high dry ground overlooking Key Biscayne Bay, and on the left bank of the Miami River, about 150 miles from Key West.

There is good well-water arising from the everglades, no malaria, and a nearly constant fresh easterly breeze blowing directly from the sea.

If the troops will be removed every summer from Key West and Fort Jefferson, a very desirable healthy summer-camp could be prepared here at very little expense.

This report is forwarded by the first mail since our arrival.

Very respectfully, your obedient servant,

R. S. VICKERY,  
Assistant Surgeon, *United States Army*.



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## R E P O R T S

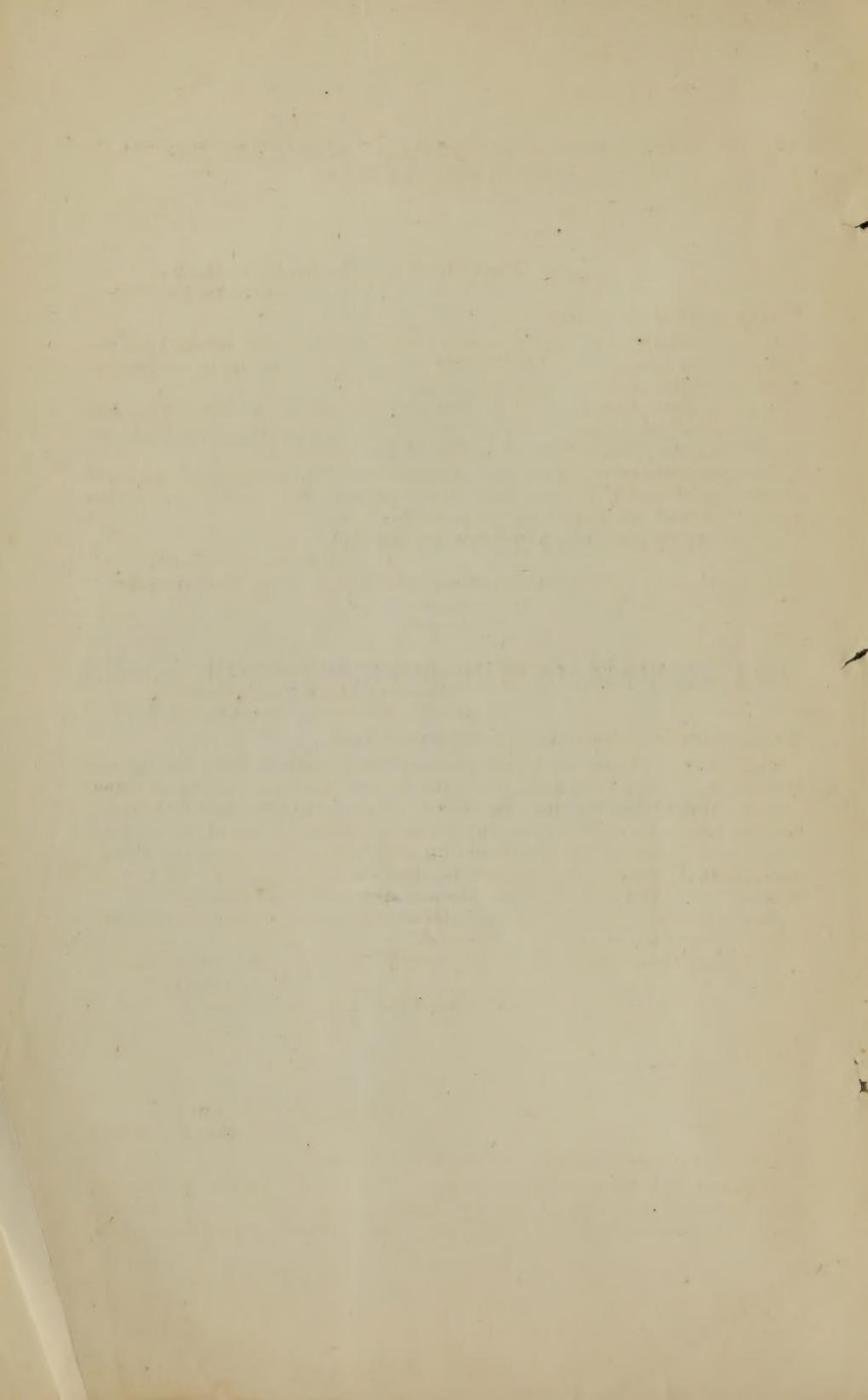
ON THE SUBJECT OF

THE REMOVAL OF THE GARRISON FROM MOBILE

TO

MOUNT VERNON ARSENAL.

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REPORTS ON THE SUBJECT OF THE REMOVAL OF THE GARRISON FROM MOBILE  
TO MOUNT VERNON ARSENAL.

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POST HOSPITAL, MOBILE, ALABAMA,  
*September 19, 1873.*

To the POST ADJUTANT :

SIR : I have the honor to report to the commanding officer that the yellow fever has appeared in Mobile to such an extent as to render the removal of the troops at once judicious.

I have my information from the city physician, the surgeon of the city hospital, and other medical men of the city, and am entirely assured that the disease is here, and is of a violent type.

I respectfully recommend that the intention expressed by you to move at once to Mount Vernon in such as the present contingency, be carried into effect with as little delay as possible.

Very respectfully, your obedient servant,

JOS. K. CORSON,  
*Assistant Surgeon United States Army, Post-Surgeon.*

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HEADQUARTERS DEPARTMENT OF THE SOUTH,  
MEDICAL DIRECTOR'S OFFICE,  
*Louisville, Kentucky, September 23, 1873.*

To the SURGEON-GENERAL *United States Army* :

GENERAL : I have the honor to report that yellow fever having appeared in Mobile, Alabama, the action of the commanding officer transferring the troops at once to Mount Vernon arsenal was approved; and at the same time, upon my recommendation, telegraphic instructions were sent to the commanding officers at Charleston, Savannah, and Saint Augustine, from these headquarters, to transfer their commands to healthy camps, if the disease appeared in those cities.

Each year's experience in this department confirms the importance of this course when promptly adopted.

I have the honor to be, very respectfully, your obedient servant,  
WM. J. SLOAN,  
*Surgeon United States Army, Medical Director.*

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MOUNT VERNON BARRACKS, ALABAMA,  
*September 24, 1873.*

To the SURGEON-GENERAL *United States Army* :

GENERAL : I have the honor to state that on last Friday, September 19, I received information that two fatal cases of yellow fever had occurred at the city hospital, Mobile, one being that of a man direct from

Shreveport, Louisiana, where the fever was prevailing, and the other a Sister of Mercy who nursed him. One other death ensued on Saturday, of a citizen who lived opposite.

Immediately upon hearing of these cases I went to the office of the city physician, and on being assured by him and other prominent medical men of the city of the undoubted nature of the disease, I at once addressed a letter to the commanding officer, a copy of which is herewith inclosed, recommending the immediate removal of the troops to Mount Vernon barracks.

Active measures were at once commenced, and on Saturday (20th) all had left the city with the exception of a detachment of three non-commissioned officers and ten men, under command of Lieutenant Keller, Second Infantry, and myself. A telegram received that evening from headquarters Department of the South, ordered the employment of three citizen watchmen, and withdrawal of the detachment to Mount Vernon. In obedience to this, I arrived at this post Tuesday, September 23, and shall relieve Acting Assistant Surgeon Reynolds to-morrow in charge of post-hospital.

Up to the date of my leaving Mobile no new fatal cases of yellow fever had occurred, and I heard of none under treatment. Along the line of the Mobile and Montgomery Railroad, at Pollard and other towns, and at Pensacola, it is prevailing in a most distressing form.

I regret that the pressure of unusual duties, consequent upon the sudden removal of the troops, has prevented me from making an earlier report.

Very respectfully, your obedient servant,

JOS. K. CORSON,

Assistant Surgeon United States Army.



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